

# Metagenomics

Sanger sequencing

Pyrosequencing

... helicos, solexa, APG

	Sanger	Pyro
Cost	\$2.25 for 1000 bp	\$9,000 for 38 MB
Cost per base	0.225¢	0.023¢
Time for sample prep	2-3 months	2-3 days
Cloning	Yes	No
Amplification	No	Yes
Average read length	750 bp	105 bp

<http://metagenomics.theseed.org>  
More than 100 metagenomes

Mainly 454 data from

- Rohwer Lab
- DeLong
- Mary Ann Moran
- Bryan White
- Karen Nelson
- Jeffry Gordon
- Phil Hugenholtz

Almost 2 GB of data

# Metagenomes relevant to BRC

- Human related:
  - Skin
  - Fecal - DNA and RNA
  - Intestinal
  - Dental
  - Cystic fibrosis
  - Blood bank
- Other BRC related:
  - Mosquito blood
  - Airborne
  - Water (reclaimed, drinking, etc)
  - Soil
  - Agricultural

# <http://scums.sdsu.edu/>

- ☉ Identify similarities against NR
  - ☉ BLAST
  - ☉ HMMPFAM
- ☉ Load into the SEED for automated functional assignments
- ☉ Compare against “boutique” databases
  - ☉ SSU rDNA
  - ☉ Chloroplast
  - ☉ Mitochondria
  - ☉ Vector
  - ☉ Viruses
  - ☉ Phages
  - ☉ Mobile Elements
  - ☉ ....